



The Natural Resources Capital Improvement Program

Complete List of Identified Projects for Drainage, Stormwater Management and Stream
Corridor Stability/Habitat Improvements



**City of Redmond
Public Works Department
Natural Resources Division**

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Table of Contents

| | |
|---|---------|
| Overview | Page 1 |
| Relationship of CIP to other Stormwater and Natural Resources Documents | Page 2 |
| Project Identification and Ranking Process | Page 2 |
| | |
| Appendix A – Natural Resources Capital Improvement Project Process Flow Chart | Page 5 |
| Appendix B – Natural Resource Project Rankings | Page 6 |
| Appendix C – Storm Project Rankings | Page 7 |
| Appendix D – Capital Improvement Project Budget | Page __ |
| Appendix E – Project Map | Page __ |
| Appendix F – Project Descriptions | Page __ |

Overview

Capital improvement projects are necessary to alleviate problems caused by existing development, as well as to prevent future problems that could result from planned development. In the Division of Natural Resources, typical capital improvements include large stream or habitat protection or improvement projects, fisheries enhancement projects, streambank stabilization or erosion repair projects, detention ponds, water quality treatment, and structural upgrades and repairs.

This plan presents a “master list” of needed projects including both funded and unfunded projects. The costs, staff time and other resource needs associated with identified projects far exceed the amount of funding and resources available. Only projects that provide a public benefit or are a public responsibility are included. This plan does not include projects that are routine maintenance, or private responsibility. The projects listed in this document, when constructed, are intended to meet the goals of the Stormwater Utility, the Natural Resources Division, the Public Works Department and the City of Redmond.

The Capital Improvement Program is divided into two separate sections:

Habitat projects address the needs of the natural systems within the City. Types of projects include, but are not limited to, stream enhancement, habitat rehabilitation, groundwater protection, fish passage improvement, and buffer enhancement.

Stormwater projects address the man-made elements including conveyance, flooding, stormwater quality treatment, stormwater quantity treatment and erosion/sedimentation control.

The conceptual costs associated with each project are preliminary estimates used to provide the reader with an idea of the size and complexity of the project. These estimates do not include staff time and will vary depending on the scope of work that is ultimately determined after further evaluation and study.

The purpose of this document is to provide a complete list of known Natural Resources improvement needs in the functional areas of drainage, stormwater management and stream corridor stability/habitat improvements. This comprehensive list with detailed data on each project will help staff gain a more holistic understanding of the needs in the City and effectively and efficiently plan, prioritize and coordinate how the projects may be accomplished to best meet the goals of the City. This document provides a logical basis for establishing the 6-year Capital Improvement Program. In addition, projects may be constructed in-whole or in-part by private development activity or by combining or partnering with other City or regional capital construction activity.

This document is intended to:

- Help the City Council understand the capital needs of the Stormwater Utility in order to give staff guidance, support budget/utility rate review, and other budgeting decisions.
- Help in the creation of the Natural Resources six-year CIP
- Help coordinate capital construction in the Division of Natural Resources with:
 - Capital construction in transportation, parks, and utilities
 - City maintenance activities
 - Private development activities
 - Other agencies
- Help guide City-wide planning activities
- Help demonstrate compliance with regulatory requirements

This document is updated annually to

- 1. Completed projects will be removed and archived*
- 2. New projects that are developed will be added to the document.*
 - i. Projects are developed to address problems identified as a result of:*
 - 1. Citizen complaints*
 - 2. Water Quality and other Monitoring*
 - 3. Drainage system analysis*
 - 4. Site inspections*
 - 5. Regulatory requirements*
 - 6. Deteriorating field conditions*
- 3. Existing projects will be updated based on changing regulations, permit requirements, land acquisition issues, etc.*

Relationship of the CIP to other Stormwater and Natural Resources Documents

6-Year Capital Improvement Budget

The Stormwater and Natural Resources Capital Improvement Program Plan (CIP) provides the basis for updates to the 6-Year Capital Improvement Budget by providing project descriptions, ranking and costs for all identified stormwater and stream projects. This information is used to prioritize, schedule, and coordinate projects for construction, based on current budget forecasts.

Stormwater Comprehensive Plan

The CIP is designed to achieve the goals and objectives for Stormwater Management and Habitat projects described in the Stormwater Comprehensive Plan as mandated by the Puget Sound Water Quality Management Plan.

Stormwater Master Plan

The CIP uses the Stormwater Master Plan to identify projects based on deficiencies identified within the natural and built systems that capture, convey, store and treat stormwater in the City.

NPDES Phase 2

The CIP will be used to demonstrate compliance with NPDES Phase 2 requirements by providing information on future construction of projects that will improve post-construction stormwater treatment within the City.

Project Identification and Ranking Process

The projects contained in this document originated from reports by maintenance crews and citizens, consultant studies, and from field observations by city staff. The Division has established a four step method of prioritizing natural resource and stormwater improvement projects to focus attention and resources to the most critical needs in the City while taking advantage of opportunities, providing support to other City functions and engaging the public.

Step 1 – Numerical Project Scoring

Natural Resource: Each natural resource project is scored based upon a set of criteria including flooding, habitat, groundwater, cultural issues, erosion and/or slope stability, and water quality. Within each category, the degree of severity is evaluated depending on whether the impact is minor, such as an aesthetic improvement, or whether the impact is extensive, such as water quality degradation that precludes

human contact.

Stormwater: Traditional stormwater management projects are scored in six categories: conveyance, erosion/stability, water quality, riparian habitat, groundwater recharge, and operational problems. Each category is weighted based upon the severity of the problems and their geographical extent.

Numerical scoring may not provide consideration for special factors or needs such as complexity of permitting, coordination with other City projects, state and federal mandates, or other constraints. Steps 2 through 4 were developed to evaluate those types of considerations and to allow for inclusion of a variety of opportunities.

Step 2 - Evaluation of Prerequisites

Project order may be adjusted based on some other conditions that must be met before construction can commence. For example, it may be necessary to build a detention pond to control flow in a basin before repairing an erosion problem in a section of the receiving stream. Or a culvert may need to be upsized before street improvements are constructed to avoid sawcutting and repair to the street after paving is completed. Prerequisites are evaluated basin wide to address the cause of the problem rather than simply repairing the damage that is caused by the problem.

Step 3 - Partnership Opportunity

Other private and public works projects are evaluated to take advantage of opportunities to combine projects which would result in increased cost effectiveness and help to leverage City resources. For example, stream enhancement projects may be considered mitigation for other public works improvement projects.

Step – 4 - Education and Community Outreach

Maintaining citizen awareness of natural resources issues and encouraging strong citizen stewardship in our environment can multiply our effectiveness beyond what could be accomplished by the City alone. This may mean that a project of somewhat lesser technical merit should be given priority to engage the public and maintain citizen involvement. For example, a buffer enhancement project might rise in priority if community volunteers are used.

The Capital Improvement Program descriptions and rankings are subject to periodic updates to adjust for new information and to add projects, or take advantage of opportunities, that were unknown during the previous edition.

Appendix A

Natural Resources Capital Project Improvement Process Flow Chart

Appendix B

Habitat Projects Rankings

Appendix C

Storm Projects Rankings

Appendix D

Six Year Capital Improvement Project Budget for Period 2003 to 2003

Appendix E

Project Map

Appendix F

Project Descriptions